REMARKS

Claims 1-20 remain pending in this application. Claims 1, 10 and 15 are amended. Claims 2, 4-7, 11, 13, 14, 16, 17, 19 and 20 were previously presented. Claims 3, 8, 9, 12, and 18 remain unchanged.

35 U.S.C. §103

Claims 1-20 stand rejected under 35 U.S.C. §103(a) as being unpatenable over Sawahashi et al. (5,774,494) in view of Dabak et al. (7,039,036).

Claim 1 is amended to recite, inter alia, "an apparatus for performing a cell search, the apparatus comprising...a first correlation arrangement that correlates for a primary synchronization code in a received signal to produce a first correlated signal...a second correlation arrangement that correlates for a secondary synchronization code in the received signal to produce a second correlated signal... and logic that derives a frequency adjustment signal from the first correlated signal and combines the frequency adjustment signal with the second correlated signal to reduce a frequency offset in the second correlated signal such that a secondary synchronization channel of a cell is acquired" (emphasis added). Support for the amendment is found, among other places, on page 3, line 18 to page 5, line 10 and on page 6, lines 4 to 26.

The "first correlation arrangement that correlates for a primary synchronization code in a received signal to produce a first correlated signal...a second correlation arrangement that correlates for a secondary synchronization code in the received signal to produce a second correlated signal... and logic that derives a frequency adjustment signal from the first correlated signal and combines the frequency adjustment signal with the second correlated signal to reduce a frequency offset in the second correlated signal such that a secondary synchronization channel of a cell is acquired" recitation of amended claim 1 is an important aspect of applicants' invention. As discussed on page 1 of applicants' specification (page 1, line 24 to page 2, line 2):

> In processing received CDMA signals, it may be difficult to detect long symbols in the presence of a frequency offset. Because the chips (each chip is equal to one bit in a spreading code) that make up a symbol may tend to rotate in the presence of a frequency offset, it is possible for the chips to rotate completely around the complex plane during the integration period of one symbol. When this happens, the chips may destructively combine to produce a very small

> correlation peak. One method may be to solve this problem may be to implement a frequency synchronization block in hardware, but such solutions may be undesirably expensive in order to be able to tolerate higher frequency offsets. Absent more expensive hardware solutions, a receiver may only be able to detect long symbols in the presence of relatively low frequency offsets. An improved method and apparatus for the detection of long symbols in the presence of a relatively high frequency offset is desirable.

In other words, having "first correlation arrangement that correlates for a primary synchronization code in a received signal to produce a first correlated signal...a second correlation arrangement that correlates for a secondary synchronization code in the received signal to produce a second correlated signal... and logic that derives a frequency adjustment signal from the first correlated signal and combines the frequency adjustment signal with the second correlated signal to reduce a frequency offset in the second correlated signal such that a secondary synchronization channel of a cell is acquired" overcomes the problem of detecting or correlating long symbols in the presence of a frequency offset since the combination of the frequency adjustment signal, derived from the first correlated signal, with the second correlation signal reduces and/or removes the frequency offset from the second correlated signal such that a secondary synchronization channel of a cell can be acquired. Indeed, this benefit is further discussed in applicants' specification on page 6, lines 12-16:

> The Secondary SCH correlation block 100 may use the output of a correlation for the Primary SCH channel to derive a frequency adjustment that is applied prior to the second stage of correlation for the Secondary SCH channel. Thus, the Secondary SCH detection algorithm may work under much higher frequency offsets than would otherwise be possible.

Sawahashi et al. appears to disclose a spread spectrum communication receiver having a despreading arrangement that uses a single spread code to despread a received signal. The Sawahashi receiver uses a fixed frequency oscillator 41 that has a frequency error because it is not in synch with the oscillator of the transmitter that transmitted the received spread spectrum signal. (Column 4, lines 45 to 65). To correct for the frequency error, Sawahashi appears to teach correlating the received signal with a single spreading code three times. The first correlation of the received signal results in a despread signal that contains a frequency error do to the fixed oscillator 41.(Column 5, lines 1 to 7). The second and third correlation of the received signal

with the same single spreading code as used during the first correlation is done to derive the frequency error caused by the fixed oscillator 41. (Column 5, lines 22 to 55; column 6, lines 50 to 59). In short, Sawahashi appears to teach a dispreading arrangement that despreads a received signal using a single spread code and uses the same single spread code to derive a correction for a frequency offset caused by the fixed oscillator 41 of the receiver.

In contrast to Sawahashi, amended claim 1 recites "an apparatus for performing a cell search, the apparatus comprising...a first correlation arrangement that correlates for a primary synchronization code in a received signal to produce a first correlated signal...a second correlation arrangement that correlates for a secondary synchronization code in the received signal to produce a second correlated signal... and logic that derives a frequency adjustment signal from the first correlated signal and combines the frequency adjustment signal with the second correlated signal to reduce a frequency offset in the second correlated signal such that a secondary synchronization channel of a cell is acquired". Sawahashi does not appear to discuss or teach any technique for performing a cell search or acquiring a secondary synchronization channel of a cell as recited in amended claim 1. Indeed, as noted by the examiner, Sawahashi also does not teach or disclose the primary synchronization or secondary synchronization codes utilized in applicants' invention, and as recited in amended claim 1, to "reduce a frequency offset in the second correlated signal such that a secondary synchronization channel of a cell is acquired".

Dabak et al. appears to merely discuss the conventional uses of primary synchronization codes and secondary synchronization codes in a WCDMA system to establish communications between a receiver and a base station. (Column 1, line 66 to column 2, line 48). Dabak does not teach or discuss the "first correlation arrangement that correlates for a primary synchronization code in a received signal to produce a first correlated signal...a second correlation arrangement that correlates for a secondary synchronization code in the received signal to produce a second correlated signal... and logic that derives a frequency adjustment signal from the first correlated signal and combines the frequency adjustment signal with the second correlated signal to reduce a frequency offset in the second correlated signal such that a secondary synchronization channel of a cell is acquired" recited in amended claim1.

In the office action it is suggested that it would be obvious to modify the Sawahashi receiver based on the teaching of Dabak. Applicants are unsure what the results of such a modification would be. As discussed above, Sawahashi is directed to a receiver that has a despreading arrangement that uses a single spreading code and three correlators to despread a received signal and remove a locally created frequency offset and Dabak is directed towards using primary synchronization codes and secondary synchronization codes in a conventional manner to synchronize a receiver with a base station. Applicants respectfully contend that replacing the single spreading code of Sawahashi with the primary synchronization codes and secondary synchronization codes of Dabak would likely render the Sawahashi receiver inoperable. Indeed, as shown in Figure 1 and discussed on page 5, lines 3 to 27 of applicants' specification, despreading and synchronization are typically separate and distinct functions performed by a receiver. As a result, it is unclear to applicants what the combination of Sawahashi and Dabak would be but applicants respectfully propose that such a combination would not teach or suggest the "first correlation arrangement that correlates for a primary synchronization code in a received signal to produce a first correlated signal...a second correlation arrangement that correlates for a secondary synchronization code in the received signal to produce a second correlated signal... and logic that derives a frequency adjustment signal from the first correlated signal and combines the frequency adjustment signal with the second correlated signal to reduce a frequency offset in the second correlated signal such that a secondary synchronization channel of a cell is acquired" elements of amended claim1.

As a result, neither Sawahashi nor Dabak, either alone or in combination, teach the "first correlation arrangement that correlates for a primary synchronization code in a received signal to produce a first correlated signal...a second correlation arrangement that correlates for a secondary synchronization code in the received signal to produce a second correlated signal... and logic that derives a frequency adjustment signal from the first correlated signal and combines the frequency adjustment signal with the second correlated signal to reduce a frequency offset in the second correlated signal such that a secondary synchronization channel of a cell is acquired" elements of amended claim 1. Therefore, it is respectfully proposed that the rejection of amended claim 1 under 35

U.S.C. § 103(a) is overcome in accordance with the above amendment and remarks and notice to that effect is earnestly solicited.

Claims 2-8 depend from amended claim 1, or depend from claims depending from amended claim 1, should therefore also be allowable for the same reasons, as well as for the additional recitation contained therein. Applicants respectfully requests reconsideration of the rejection of the claims in view of the above remarks.

Independent claim 10 is amended to include elements similar to the elements of amended independent claim 1 and should therefore be allowable for the same reasons discussed above as well as for the additional recitations contained therein. Therefore, it is respectfully proposed that the rejection for obviousness is overcome. Claims 11-14 being dependent on and further limiting independent claim 10, should be allowable for that reason, as well as for the additional recitations contained therein. Applicants respectfully requests reconsideration of the rejection of the claims in view of the above remarks.

Independent claim 15 is amended to include elements similar to the elements of amended independent claim 1 and should therefore be allowable for the same reasons discussed above as well as for the additional recitations contained therein. Therefore, it is respectfully proposed that the rejection for obviousness is overcome. Claims 16-20 being dependent on and further limiting independent claim 10, should be allowable for that reason, as well as for the additional recitations contained therein. Applicants respectfully requests reconsideration of the rejection of the claims in view of the above remarks.

Having fully addressed the Examiner's rejections it is believed that, in view of the preceding amendments and remarks, this application stands in condition for allowance. Accordingly then, reconsideration and allowance are respectfully solicited. If, however, the Examiner is of the opinion that such action cannot be taken, the Examiner is invited to contact the applicant's attorney at (818) 260-3727, so that a mutually convenient date and time for a telephonic interview may be scheduled.

No fee is believed due other than the fees discussed above. However, if an additional fee is due, please charge the additional fee to Deposit Account 07-0832.

Respectfully submitted,
Louis Robert Litwin

By: _____
Vincent Duffy
Reg. No. 39,964
Tel. No. (818) 260-3727

Thomson Licensing LLC
Patent Operations
PO Box 5312
Princeton, NJ 08543-5312
August 5, 2008

CERTIFICATE OF MAILING under 37 C.F.R. §1.8

I hereby certify that this amendment is being deposited with the United States Postal Service as First Class Mail, postage prepaid, in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on:

Date: August 5, 2008 _____

Report to Data Base

PATENT OPERATIONS

MAILING TO U.S. Patent and Trademark Offic

Docket No PU030156 Serial No. 10/612,310 Filed: 7/2/03 Patent No. ____

Inventor(s): Louis, Robert Litwin et al. Atty: Vincent E. Duffy

Title: Method and Apparatus For Frequency-Robust Detection of A WCDMA SSC

APPLICATION AS FILED									
Enter Date	Enter Number		Check Type		Check Items Mailed with Application				
		Independent Claims		Original-US Nat'l	☐	Declaration			
		Claims in Excess 20	☐	Divisional	☐	Statement under CFR § 1.56-013M			
		Claim Pages	☐	Continuation	☐	Assignment & Recordation Sheet			
		Specification Pgs	☐	CPA/RCE	☐	Preliminary Amendment			
		Sheets of Drawings	☐	Reissue		Priority Document -			
		Abstract Pages	☐	Re-Exam	☐	IDS 1449 with References			
			☐	US Provisional		Utility Application Transmittal		Express Mail Application Label No.:	
	Charge		☐			Fee Transmittal Sheet in duplicate		Date Deposited: 8/5/08	
Mailed	Due	AMENDMENTS	Mailed	Due	APPEALS	Mailed	Due	FEES	
8/5/08	5/5/08	After Rejection			Notice of Appeals			Filing Fee Exp.	
		After Final Rejection			Appeal Brief			Issue Fee	
	[redacted]	After Allowance U/R312			Reply Brief				
	[redacted]	Supplemental			Pet. To Withdraw.	8/5/08	[redacted]	Ext Time§ 1.136(a)	
	[redacted]	Voluntary	[redacted]	[redacted]	REQUESTS			Add.Payment of Fee	
		Letter to Exam/Draftsperson w/Drawing Correction(s)			Ext.Time§1.136(b)	8/5/08	[redacted]	Fee Trans.Form in duplic.	
		Pg(s). of Formal Dwg(s)		[redacted]	Cert. of Correction		Charge	TOTAL FEE AMT. $1,050.00	
[redacted]	[redacted]	OTHER	[redacted]	[redacted]	OTHER	[redacted]	[redacted]	OTHER	
	[redacted]	Lic. To For. File			Statement NASA		[redacted]	Appointment Atty/Agent	
	[redacted]	Reg. Priority 35USC119		[redacted]	Terminal Disclaimer		[redacted]	Assignment & Record form	
		Statement DOE		[redacted]	Claim Disclaimer		[redacted]	Letter to PO	
		Statement under §1.56			Status Letter		[redacted]	Notif. of Foreign Ref.	
		IDS w/ references			Declaration			Correction Of Record	
	[redacted]	Certificate of Mailing			Suppl. Declaration				